



# SAW Components

Data Sheet M 3565 M





## SAW Components

M 3565 M

## IF Filter for Quasi/Split Sound Applications

45,75 MHz

### Data Sheet

#### Standard

Plastic package **SIP5K**

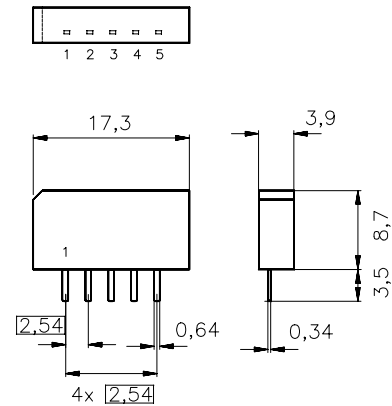
■ M/N

#### Features

- TV IF filter for quasi/split sound applications (separate picture and sound channel)
- Picture channel with Nyquist slope and sound suppression, symmetrical output
- High color carrier
- Constant group delay
- Sound channel with pass band for sound carrier only

#### Terminals

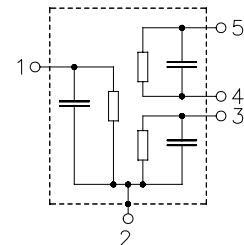
- Tinned CuFe alloy



Dimensions in mm, approx. weight 1,0 g

#### Pin configuration

- 1 Input
- 2 Chip carrier - ground
- 3 Output - sound
- 4 Output - picture
- 5 Output - picture



| Type     | Ordering code     | Marking and package according to | Packing according to |
|----------|-------------------|----------------------------------|----------------------|
| M 3565 M | B39458-M3565-M201 | C61157-A1-A15                    | F61074-V8067-Z000    |

#### Maximum ratings

|                             |           |         |    |                       |
|-----------------------------|-----------|---------|----|-----------------------|
| Operating temperature range | $T_A$     | -25/+65 | °C |                       |
| Storage temperature range   | $T_{stg}$ | -40/+85 | °C |                       |
| DC voltage                  | $V_{DC}$  | 5       | V  | between any terminals |
| AC voltage                  | $V_{pp}$  | 10      | V  | between any terminals |



# SAW Components

M 3565 M

## IF Filter for Quasi/Split Sound Applications

45,75 MHz

### Data Sheet

#### Characteristics of picture channel

Reference temperature:  $T_A = 25 (45) ^\circ \text{C}$   
Terminating source impedance:  $Z_S = 50 \Omega$   
Terminating load impedance:  $Z_L = 2 \text{ k}\Omega \parallel 3 \text{ pF}$

|  |                                       | min. | typ.                 | max. |                           |
|--|---------------------------------------|------|----------------------|------|---------------------------|
| <b>Insertion attenuation</b>   | $\alpha$                              |      |                      |      |                           |
| Reference level for the following data   | 44,06 (44,00) MHz                     | 13,8 | 15,3                 | 16,8 | dB                        |
| <b>Relative attenuation</b>  | $\alpha_{\text{rel}}$                 |      |                      |      |                           |
| Picture carrier  | 45,81 (45,75) MHz                     | 5,1  | 6,1                  | 7,1  | dB                        |
| Color carrier  | 42,23 (42,17) MHz                     | -1,3 | -0,3                 | 0,7  | dB                        |
|  | 42,06 (42,00) MHz                     | —    | -0,2                 | —    | dB                        |
| Sound carrier  | 41,31 (41,25) MHz                     | 24,0 | 38,0                 | —    | dB                        |
| Adjacent picture carrier   | 39,81 (39,75) MHz                     | 45,0 | 58,0                 | —    | dB                        |
| Adjacent sound carrier   | 47,31 (47,25) MHz                     | 42,0 | 53,0                 | —    | dB                        |
| Lower sidelobe   | 35,06 ... 39,81 (35,00 ... 39,75) MHz | 40,0 | 45,0                 | —    | dB                        |
| Upper sidelobe   | 47,31 ... 55,06 (47,25 ... 55,00) MHz | 35,0 | 39,0                 | —    | dB                        |
| <b>Reflected wave signal suppression</b>   |                                       |      |                      |      |                           |
| 1,2 $\mu\text{s}$ ... 6,0 $\mu\text{s}$ after main pulse<br>(test pulse 250 ns,<br>carrier frequency 44,06 MHz)  |                                       | 42,0 | 52,0                 | —    | dB                        |
| <b>Feedthrough signal suppression</b>  |                                       |      |                      |      |                           |
| 1,3 $\mu\text{s}$ ... 1,2 $\mu\text{s}$ before main pulse<br>(test pulse 250 ns,<br>carrier frequency 44,06 MHz) |                                       | 50,0 | 56,0                 | —    | dB                        |
| <b>Group delay ripple (p-p)</b>  | $\Delta\tau$                          | —    | 50                   | —    | ns                        |
| <b>Impedance at 44,06 MHz</b>  |                                       |      |                      |      |                           |
| Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$   |                                       | —    | 1,1 $\parallel$ 18,7 | —    | k $\Omega$ $\parallel$ pF |
| Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$   |                                       | —    | 1,9 $\parallel$ 2,8  | —    | k $\Omega$ $\parallel$ pF |
| <b>Temperature coefficient of frequency</b>  | $TC_f$                                | —    | -72                  | —    | ppm/K                     |



# SAW Components

M 3565 M

## IF Filter for Quasi/Split Sound Applications

45,75 MHz

### Data Sheet

#### Characteristics of sound channel

Reference temperature:  $T_A = 25 (45) ^\circ \text{C}$   
Terminating source impedance:  $Z_S = 50 \Omega$   
Terminating load impedance:  $Z_L = 2 \text{ k}\Omega \parallel 3 \text{ pF}$

|  |                                       | min. | typ.                 | max. |                           |
|--|---------------------------------------|------|----------------------|------|---------------------------|
| <b>Insertion attenuation</b>                                       | $\alpha$                              |      |                      |      |                           |
| Reference level for the following data                             | 41,31 (41,25) MHz                     | 9,1  | 10,6                 | 12,1 | dB                        |
| <b>Relative attenuation</b>  | $\alpha_{\text{rel}}$                 |      |                      |      |                           |
| Picture carrier  | 45,81 (45,75) MHz                     | 38,0 | 44,0                 | —    | dB                        |
| Color carrier  | 42,23 (42,17) MHz                     | 25,0 | 35,0                 | —    | dB                        |
| Adjacent picture carrier   | 39,81 (39,75) MHz                     | 38,0 | 44,0                 | —    | dB                        |
| Adjacent sound carrier   | 47,31 (47,25) MHz                     | 42,0 | 50,0                 | —    | dB                        |
| Lower sidelobe   | 35,06 ... 39,81 (35,00 ... 39,75) MHz | 37,0 | 42,0                 | —    | dB                        |
| Upper sidelobe   | 47,31 ... 55,06 (47,25 ... 55,00) MHz | 37,0 | 43,0                 | —    | dB                        |
| <b>Impedance</b> at 41,31 MHz                                      |                                       |      |                      |      |                           |
| Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$     |                                       | —    | 0,7 $\parallel$ 19,5 | —    | k $\Omega$ $\parallel$ pF |
| Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$ |                                       | —    | 1,2 $\parallel$ 2,7  | —    | k $\Omega$ $\parallel$ pF |
| <b>Temperature coefficient of frequency</b>                        | $TC_f$                                | —    | -72                  | —    | ppm/K                     |



SAW Components

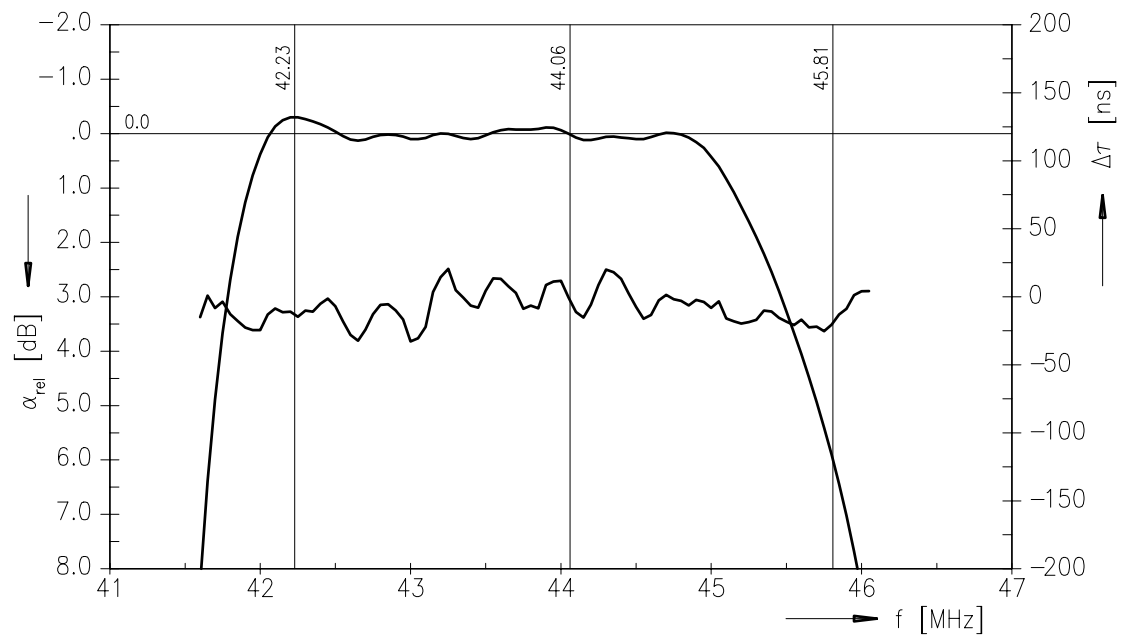
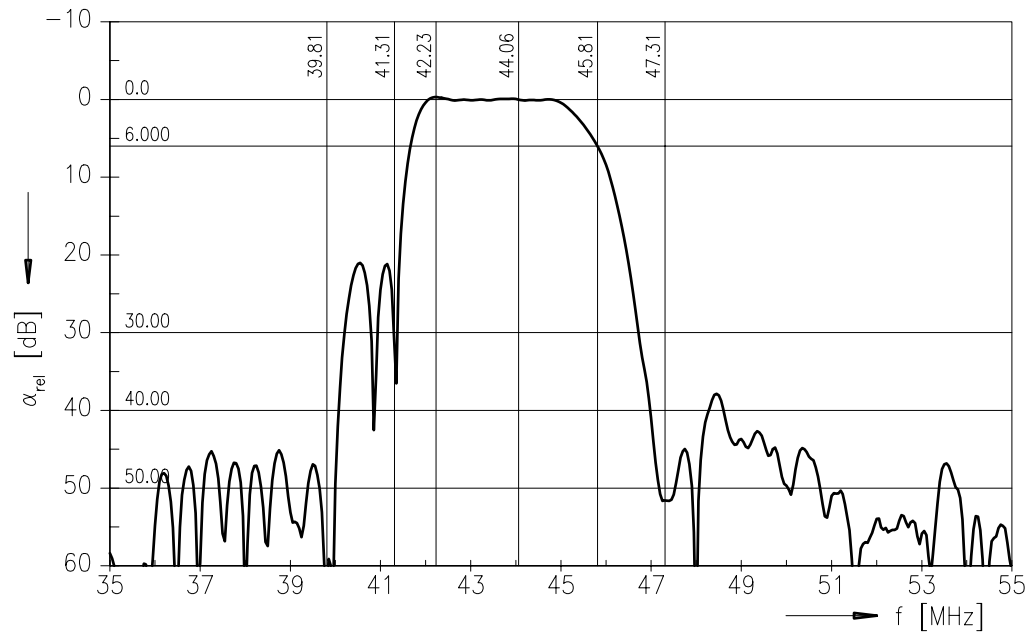
M 3565 M

IF Filter for Quasi/Split Sound Applications

45,75 MHz

Data Sheet

Frequency response of picture channel





SAW Components

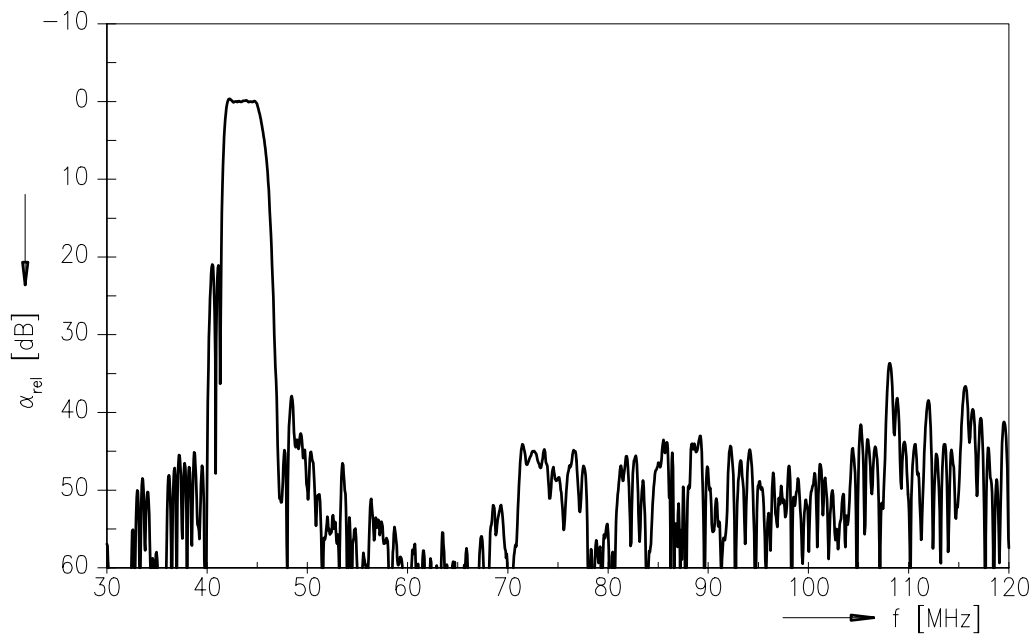
M 3565 M

IF Filter for Quasi/Split Sound Applications

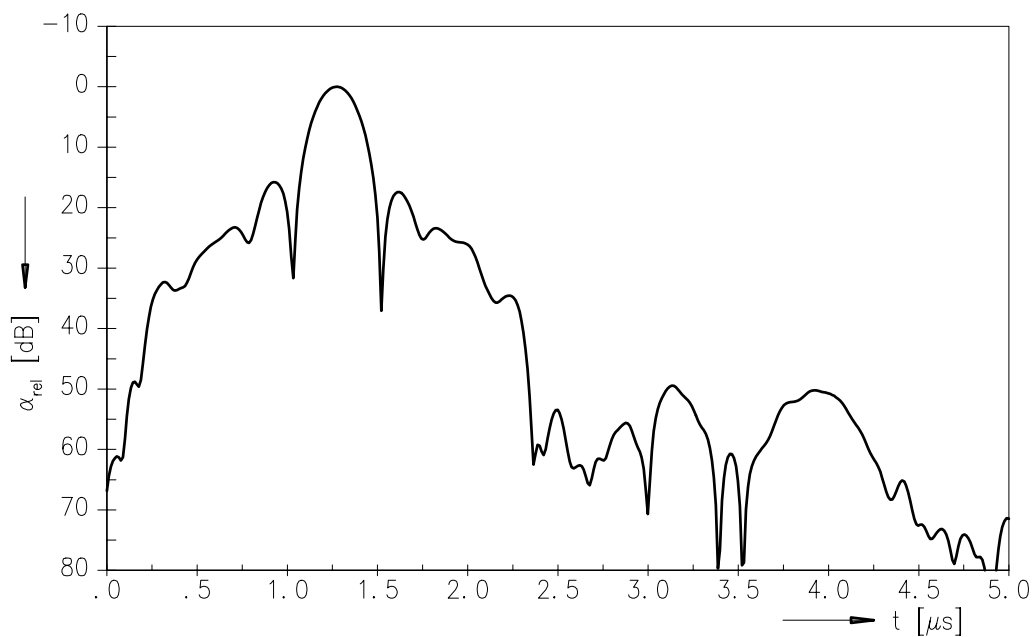
45,75 MHz

## Data Sheet

### Frequency response of picture channel



### Time domain response of picture channel





SAW Components

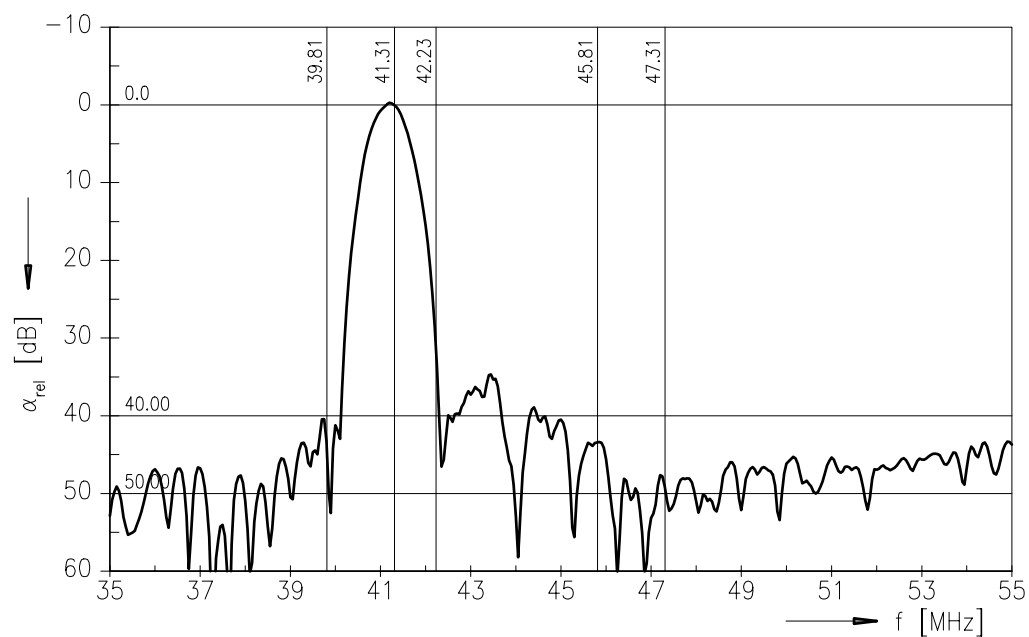
M 3565 M

IF Filter for Quasi/Split Sound Applications

45,75 MHz

## Data Sheet

### Frequency response of sound channel





|   |                  |
|---|------------------|
| <b>SAW Components</b>                               | <b>M 3565 M</b>  |
| <b>IF Filter for Quasi/Split Sound Applications</b> | <b>45,75 MHz</b> |

#### Data Sheet

**Published by EPCOS AG**  
**Surface Acoustic Wave Components Division, SAW CE MM PD**  
**P.O. Box 80 17 09, D-81617 München**

© EPCOS AG 2001. All Rights Reserved.

As far as patents or other rights of third parties are concerned, liability is only assumed for components per se, not for applications, processes and circuits implemented within components or assemblies.

The information describes the type of component and shall not be considered as assured characteristics.

Terms of delivery and rights to change design reserved.

For questions on technology, prices and delivery please contact the sales offices of EPCOS AG or the international representatives.

Due to technical requirements components may contain dangerous substances. For information on the type in question please also contact one of our sales offices.